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SOURCE Documentary as indicated. (Information specifically requested.)

RECENTLY PUBLISHED RESEARCH OF THE GOR'KIY INDUSTRIAL INSTITUTE, USSR

"Second Dissociation Constant of Selenic Acid," A. L. Agafonova, Gor'kiy Industrial Inst

"Zhur Obshch Khim" Vol 17, 1947, pp 1055-60

The pH of solutions of 0.001 N $HNO_3$ with stated amounts of $Na_2SeO_4$ (or $Na_2SO_4$), 0.0125-0.05 M, was determined by the method of Kolthoff, by spectrophotometry with methyl orange, after calibration with buffer solutions pH 2.6-4.8 and plotting the ratios of the extinction coefficients 510/470 and 535/470 mμ as a function of pH. The method was tested on the first dissociation constant of $H_3PO_4$ with results in agreement with literature data. From the pH measurements, the average ratio of the concentration dissociation constants $K(HSeO_4^-)/K(HSO_4^-) = 1.65$ (from 1.43 to 1.93). The thermodynamic (activity) dissociation constant of $HSeO_4^-$ was calculated, assuming equality of the products of the activity coefficients $SO_4^{--} \times HSO_4^-$ and $SeO_4^{--} \times HSeO_4^-$ at equal concentration and ionic strength, to 0.0163, if that for $HSO_4^- = 0.0133$ at 16°.

"The Point of Polymorphic Transformation of Lead Oxide," A. V. Pamfilov, I. N. Ponomareva, Gor'kiy Industrial Inst



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"Zhur Obshch Khim" Vol 16, 1946, pp 964-7

The point of enantiomorphic change of PbO is at 488.5°, in agreement with Cohen and Addink. Rhombic PbO possesses an enhanced stability in the region of its unstable state, which may be connected, as in the case of Sn, with the considerably greater density of this modification.

"Oxidation of Crystalline Modifications of Lead Oxide," A. V. Pamfilov, Ye. G. Ivancheva, A. G. Ivancheva, Gor'kiy Industrial Inst

"Zhur Obshch Khim" Vol 16, 1946, pp 325-30

Only the tetragonal form of PbO is oxidized in the air to $Pb_3O_4$; the rhombic form is converted to $Pb_3O_4$ only after transition to the tetragonal form. Mechanical work, such as grinding, greatly enhances oxidizability. Admixture of tetragonal form increases the rate of conversion of the rhombic to the tetragonal form.

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